

ABSTRACT OF THE DISCLOSURE

A highly efficient projection system, including a light source, a scrolling unit, a color separation hologram, a light valve, and a projection lens unit. The scrolling unit includes spirally arranged cylinder lens cells to scroll/cycle incident beams while rotating. The color separation hologram separates a beam radiated from the light source into beams with different wavelengths. The light valve forms a color image by turning on or off pixels according to an input image signal. The projection lens unit magnifies the image formed by the light valve and projects the magnified image toward a screen. In this projection system three color beams from the light source are scrolled simultaneously to produce a picture, resulting in a highly light efficient projection system.